STATEMENT OF BASIS

GROUND EVAPORATION SITE
SOLID WASTE MANAGEMENT UNIT NO. 31
45TH SPACE WING
PATRICK AIR FORCE BASE
BREVARD COUNTY, FLORIDA

PURPOSE OF STATEMENT OF BASIS

This Statement of Basis (SB) has been developed in order to inform the public and give the public an opportunity to comment on a proposed remedy to clean up contamination at Ground Evaporation Site (GES). A 45th Space Wing (45th SW) installation restoration partnering (IRP) team consisting of United States Air Force (USAF), United States Environmental Protection Agency (USEPA), the State of Florida Department of Environmental Protection (FDEP), the U. S. Army Corps of Engineers, and various environmental consultants have determined that the proposed remedy is cost effective and protective of human health and the environment. However, prior to implementation of the proposed remedy, the 45th SW IRP team would like to give an opportunity for the public to comment on the proposed remedy. At any time during the public comment period, the public may comment as described in the "How Do You Participate" section of the SB. Upon closure of the public comment period, the 45th SW IRP team will evaluate all comments and issues raised in the comments and determine if there is a need to modify the proposed remedy prior to implementation.

Brief Site Description

The Ground Evaporation Site at PAFB was used for the disposal of various organic compounds by surface evaporation. The site is located on the western edge of PAFB, adjacent to Facility 681, approximately 400 feet from the Banana River (See Figure 1).

WHY IS CLEANUP NEEDED?

The results of the Remedial Investigation (RI) indicated that benzo(a)pyrene, a polynuclear aromatic hydrocarbon (PAH), is present in the surface soils at levels that could be potentially harmful to a hypothetical future resident. Additional information is provided in Table 1.

HOW DO YOU PARTICIPATE?

The 45th SW IRP team solicits public review and comment on this SB prior to implementation of the proposed remedy as a final remedy. The final remedy for GES will eventually be incorporated into the Hazardous and Solid Waste Amendments (HSWA) Permit for Patrick Air Force Base (PAFB).

The public comment period for this SB and the proposed remedy will begin on the date that a notice of the SB's availability is published in a major local newspaper of general circulation. The public comment period will end 45 days thereafter. If requested during the comment period, the 45th SW IRP team will hold a public meeting to respond to any oral comments or questions regarding the proposed remedy. To request a hearing or provide

The Clean-up Remedy

The proposed clean-up remedy for GES includes (but is not limited to) the following components:

- Implementation of land use controls designed to prevent exposure to site contaminants. These include:
  - Prohibition of residential development
  - Quarterly monitoring requirements
  - Posting warning signs on-site

A complete list of land use controls and other protective measures are found in the GES Land Use Control Implementation Plan (LUCIP).

In accordance with RCRA Section 7004(b), this Statement of Basis summarizes the proposed remedy for PAFB Ground Evaporation Site. For detailed information, consult the Ground Evaporation Site RI Report which is available for review at the 45th SW Environmental Management Office (See "How Do You Participate") or on-line at http://www.mission-suppport.org/45SW_IRP_EA.

comments, contact the following person in writing within the 45-day comment period:

Mr. Jorge Caspary
FDEP-Bureau of Waste Cleanup
2600 Blair Stone Road, MS-4535
Tallahassee, FL 32399-2400
E-mail: Jorge.Caspary@dep.state.fl.us
Telephone: (850) 921-9986

The HSWA Permit , the SB, and the associated Administrative Record, including the RI Report, will be available to the public for viewing and copying at:

Environmental Management, CEV/ESC
Facility 1638, Samuel Phillips Parkway
Cape Canaveral Air Force Station, FL
For public access call (321) 853-0965

This information can also be found on-line at http://www.mission-support.org/45SW_IRP_EA

The HSWA Permit, the SB, and GES Report summaries will be available for viewing and copying at:

Central Brevard Library
308 Forrest Avenue
Cocoa, Fl, 32922

To request further information, you may contact one of the following people:

Ms. Teresa Green
Environmental Restoration Element Chief
45 CES/CEVR
1224 Jupiter Street
Patrick Air Force Base, FL 32925-3343
E-mail: teresa.green@patrick.af.mil
Telephone: (321) 853-0965

Mr. Jorge Caspary
See previous contact information

Mr. Timothy R. Woolheater, P. E.
EPA Federal Facilities Branch
Waste Management Division
Sam Nunn Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960
E-mail: woolheater.tim@epamail.epa.gov
Telephone: (404) 562-8510

FACILITY DESCRIPTION

USAF established the 45th SW as the primary organization for the Department of Defense aerospace force programs. These operations have involved the use of toxic and hazardous materials. Under RCRA and the HSWA Permit (PAFB Permit No. FL257002404) issued by the USEPA, the 45th SW was required to perform an investigation to determine the nature and extent of contamination from Solid Waste Management Unit (SWMU) No. 31, Ground Evaporation Site.

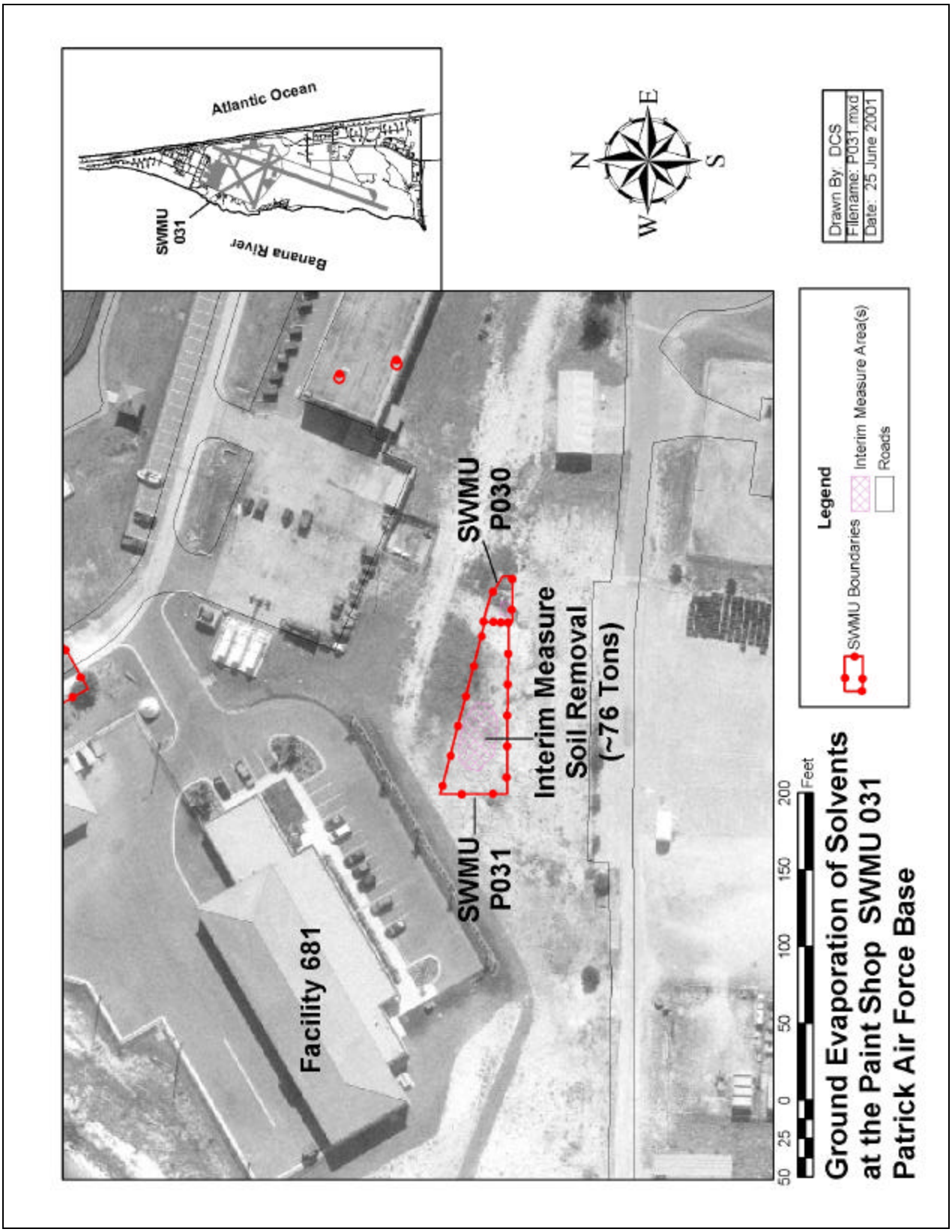
SITE DESCRIPTION AND HISTORY

GES is located on the western edge of PAFB, in an unpaved area north of Building 681 (See Figure 1). The site is located approximately 400 ft from the shore of the Banana River. There is no visible evidence of past disposal practices on the surface soils at the site. Topography at GES is characterized by having little relief. Access to the site is limited, because the site is located in a fenced area.

GES was used for disposal of waste volatile, halogenated and non-halogenated organic liquids and waste paints by surface evaporation. The waste organic liquids resulted from paint shop activities in the adjacent Building 681. The liquids were reportedly poured on the unpaved ground surface adjacent and behind the former Building 681. The disposal period is not known.

Based on the history for the facility, the USAF initiated IRP activities from 1990 through present. The USAF conducted the following investigations:

- 1984: A Phase I Records Search including records review, site reconnaissance, and



In accordance with RCRA Section 7004(b), this Statement of Basis summarizes the proposed remedy for PAFB Ground Evaporation Site. For detailed information, consult the Ground Evaporation Site RI Report which is available for review at the 45th SW Environmental Management Office (See "How Do You Participate") or on-line at http://www.mission-suppport.org/45SW_IRP_EA.

interviews with knowledgeable personnel identified areas of concerns which warranted further investigation.

- 1986-1988: A Phase II Confirmation/ Quantification investigation was conducted, during which groundwater, soil, and sludge samples were collected. This investigation concluded that the presence of constituents in soil and groundwater might pose a risk to human health and the environment. The Phase II investigation recommended that a Phase III Investigation (RI) be conducted to assess the nature and extent of the contamination present at the site, and perform risk assessments to determine if the contamination is potentially detrimental to human or ecological health.
- 1997: An Interim Measure (IM) was performed to remove PCB soil contamination found adjacent to former Building 681 at GES. The clean-up action resulted in the removal of approximately 55 cubic yards (76 tons) of material
- 1988-1997: The RI was initiated in 1988 and documented in a report that also addressed a number of other Sites. This RI was unable to adequately characterize and assess the contamination at GES. Consequently, a more robust RI was initiated in 1994 and detailed the sampling and analysis of site soil and groundwater. These results were used to determine human health and ecological risks. The Human Health Risk Assessment (HHRA) indicated that potential risk exists from the site's groundwater and soil. The Ecological Risk Assessment (ERA) indicated that no unacceptable ecological risk is present at the site.

SUMMARY OF SITE RISK

As part of the RI activities, an HHRA and an ERA were conducted to estimate the health and environmental risks associated with the site-specific contamination. The risk assessments were performed in accordance with risk management decision processes established by the USEPA, FDEP, and the USAF at the time the RI was initiated.

The Chemicals of Concern (COCs) identified for human health that were carried through the RI were:

- Soil: benzo(a)pyrene

Surface water and sediment features were not present on the site, and were therefore not evaluated as a source of potential human health risk. A soil removal was performed based on initial RI data. This removal targeted all areas where existing soils posed a potential unacceptable risk to current and future workers. Remaining soils continue to pose a potential unacceptable risk only under the hypothetical future adult and child resident scenarios, for which the one in one million (1/1,000,000) cancer threshold was exceeded. Benzo(a) pyrene was the primary contributor to the remaining cancer risk.

Several groundwater contaminants initially appeared to present a low-level risk to hypothetical future residents. When risk management considerations (e.g., results were less than background contaminant levels, etections were isolated or infrequent, or data points could not be reproduced with re-sampling) were taken into account, there is no unacceptable risk or hazard to hypothetical future residents through groundwater exposure.

The ERA was conducted to evaluate the possibility that land organisms (eco-receptors) may be at risk from site-related contaminants. The ERA was based on laboratory analyses of groundwater and soil.

The ERA concluded that potential risk from the exposure to and/or ingestion of groundwater or soil by eco-receptors is marginal. Several factors mitigate the potential concern. These could include routine facility operation and maintenance activities, less than optimal habitat

found within facility boundaries, and the extent of the eco-receptor's normal foraging area.

WHAT ARE THE CLEANUP OBJECTIVES AND LEVELS?

The remedial action objective (RAO) is to protect humans from exposure to soils by preventing residential land use where site contaminant concentrations are higher than regulatory standards. Table 1 lists the COC present at the GES site. The first column lists the chemical name, the second column lists the maximum concentration detected in the impacted medium at GES during the RI, and the last column presents the clean-up level to be achieved at the site.

TABLE 1—CLEANUP GOALS

Site-Related Chemicals of Concern (COCs)	Maximum Detected Concentration (mg/kg)	Site-Specific Clean-up Level[1] (mg/kg)
SOIL		
Benzo(a)pyrene	0.23	0.10

[1] Clean-up level represents the most stringent value among USEPA and FDEP criteria at the time of the final investigation.

CLEANUP ALTERNATIVES FOR GES

Clean-up alternatives are different combinations of plans to restrict site use and to contain, remove, and/or treat contamination in order to protect public health and the environment. Only two alternatives were considered because of low levels of contamination present at GES. The clean-up alternatives considered for GES are summarized below.

No Action: Evaluation of the No-Action alternative is used as a basis for comparison with other alternatives. Under this alternative, no remedial action would be taken to reduce human health risks or restrict site use. It was determined this alternative would not attain the RAO.

Land Use Controls: Under this alternative, the base would implement site-specific land use controls to prevent exposure of hypothetical future residents to site soils. In the long term, this remedy alternative will meet RAO and will also allow re-evaluation to determine if the remedy is working and provide an opportunity for change if necessary.

The 45th SW, USEPA, and FDEP have entered into a Memorandum of Agreement (MOA), which outlines how land use controls will be managed at the 45th SW. The MOA requires periodic inspections, condition certification, construction project coordination, and agency notification. Site-specific details can be found in GES Land Use Control Implementation Plan (LUCIP).

EVALUATION OF REMEDY ALTERNATIVES

Each cleanup alternative was evaluated to determine how each potential remedy would comply with the four general standards for corrective measures. The four general standards for corrective measures are:

- Overall protection of human health and the environment;
- Attain media cleanup standards;
- Control the sources of releases; and
- Comply with standards for management of wastes

The second alternative (Land Use Controls) meets each of the above criteria, while the no action alternative remedy would not meet them.

LAND USE CONTROLS AGREEMENT

By separate MOA dated 23 December 1999, with USEPA and FDEP, PAFB, on behalf of the Department of the Air Force, agreed to implement base-wide, certain periodic site inspection, condition certification, and agency notification procedures designed to ensure the maintenance by installation personnel of any

site-specific land use controls deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the USAF's substantial good-faith compliance with the procedures called for therein, reasonable assurances would be provided to the USEPA and FDEP as to the permanency of those remedies which included the use specific land use controls.

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by the USAF, USEPA, and FDEP that the contemplated permanence of the remedy reflected herein shall be dependent on PAFB's substantial good-faith compliance with the specific land use control maintenance commitments reflected therein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred in may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment.

WHAT IMPACTS WOULD THE CLEANUP HAVE ON THE LOCAL COMMUNITY?

There would be no impacts to the local community because residential use of GES is not occurring nor is it expected in the near future. As long as PAFB remains an active military installation and continues to support the Space Program, GES is expected to continue operating in an industrial capacity.

WHY DOES THE 45th SW IRP TEAM RECOMMEND THIS REMEDY?

The team recommends the proposed remedy because it will provide sufficient and cost effective safeguards for residential exposures scenarios. Additionally, it will maintain an environment consistent with current usage so there is no significant increase for potential exposure to ecological receptors. The proposed remedy meets the four general standards for corrective measures.

NEXT STEPS

The 45th SW IRP team will review all comments on this SB to determine if the proposed remedy needs modification prior to implementation and prior to incorporating the proposed remedy into the PAFB HSWA permit. If the proposed remedy is determined to be appropriate for implementation, then site's land use controls will be initiated and a LUCIP will be developed and incorporated into the MOA.

LAND USE CONTROL IMPLEMENTATION PLAN

GROUND EVAPORATION SITE
SOLID WASTE MANAGEMENT UNIT 31 (SWMU NO. 31)
45TH SPACE WING
PATRICK AIR FORCE BASE
BREVARD COUNTY, FLORIDA

Facility Description

The Ground Evaporation of Solvents Site (GES), Solid Waste Management Unit 31 (SWMU No. 31), is located on the western edge of Patrick Air Force Base (PAFB), Florida, in an unpaved area north of Building 681. The site is located approximately 400 ft from the shore of the Banana River. Access to the site is limited, because the site is located in a fenced area. GES was used for disposal of waste volatile, halogenated and non-halogenated organic liquids and waste paints by surface evaporation. The waste organic liquids resulted from paint shop activities in the adjacent Building 681. The liquids were reportedly poured on the unpaved ground surface adjacent and behind the former Building 681. The disposal period is not known.

Location (Reference Site Map on last page of this document)

Site Plan Coordinate	Northing	Easting
North	1422812.95	780343.39
West	1422791.97	780341.76
South	1422769.36	780408.60
East	1422777.23	780454.15

Objective

Implementation of site-specific land use controls to prevent exposure of hypothetical future residents to the soil.

Land Use Controls (LUCs) to be Implemented:

Administrative:

- The property will be prohibited from residential or other non-industrial development without prior written notification to the Florida Department of Environmental Protection (FDEP) and the United States Environmental Protection Agency (USEPA) concerning the SWMU land use change. Dependent on site conditions and the nature and intensity of the proposed land use change, additional site investigations and

assessments could be required for the United States Air Force (USAF). Based on these analyses, additional remedial measures may be required prior to land use change.

- Perform and document baseline LUC audit upon finalization of the Statement of Basis.
- Perform and document quarterly LUC compliance inspections in accordance with 45th SW LUC Operations Manual.
- Perform, document, and report an annual audit on LUC implementation, maintenance, and compliance in accordance with the 45th SW LUC Operations Manual and the current PAFB Corrective Action Management Plan (CAMP).
- The property Land Use Control Implementation Plan (LUCIP) shall remain in effect until:
  a) Changes to applicable Federal and State risk-based clean-up standards occur which indicate site contaminants no longer pose potential residential risk; or
  b) Reduction in site contaminant concentrations to below Federal and State residential risk-based clean-up standards occurs.
- In the event of property realignment, transfer, or re-use for non-industrial or non-commercial purposes, assessment and remediation may be necessary to ensure that impacts to ecological receptors are not increased or to mitigate potential ecological impacts where residual contamination exists.

Soil:

- Soils will not be disturbed or moved during property development, maintenance or construction, without:
  a) USAF review, coordination, and approval of the proposed construction/ development plans via AF Form 103 (Base Civil Engineer Work Clearance Request), 332 (Base Civil Engineer Work Request), 813 (Request for Environmental Impact Analysis), or similar process;
  b) Ensuring proper engineering controls are in-place so that unauthorized release or disposal of the affected media does not occur. This includes conducting appropriate testing and developing a disposal plan in accordance with the LUC Operations Manual prior to off-site disposal; and
  c) Use of proper personal protection equipment by site workers, as determined by the project proponent's occupational health and safety advisor.
- The site will be posted with proper warning signs in accordance with the LUC Operations Manual and the PAFB Hazardous and Solid Waste Amendments (HSWA) Permit.

Statement of Basis:

The Statement of Basis (SB) is currently being reviewed. It is anticipated that the SB will be accepted/incorporated into the HSWA Permit, scheduled for issuance early in 2002.

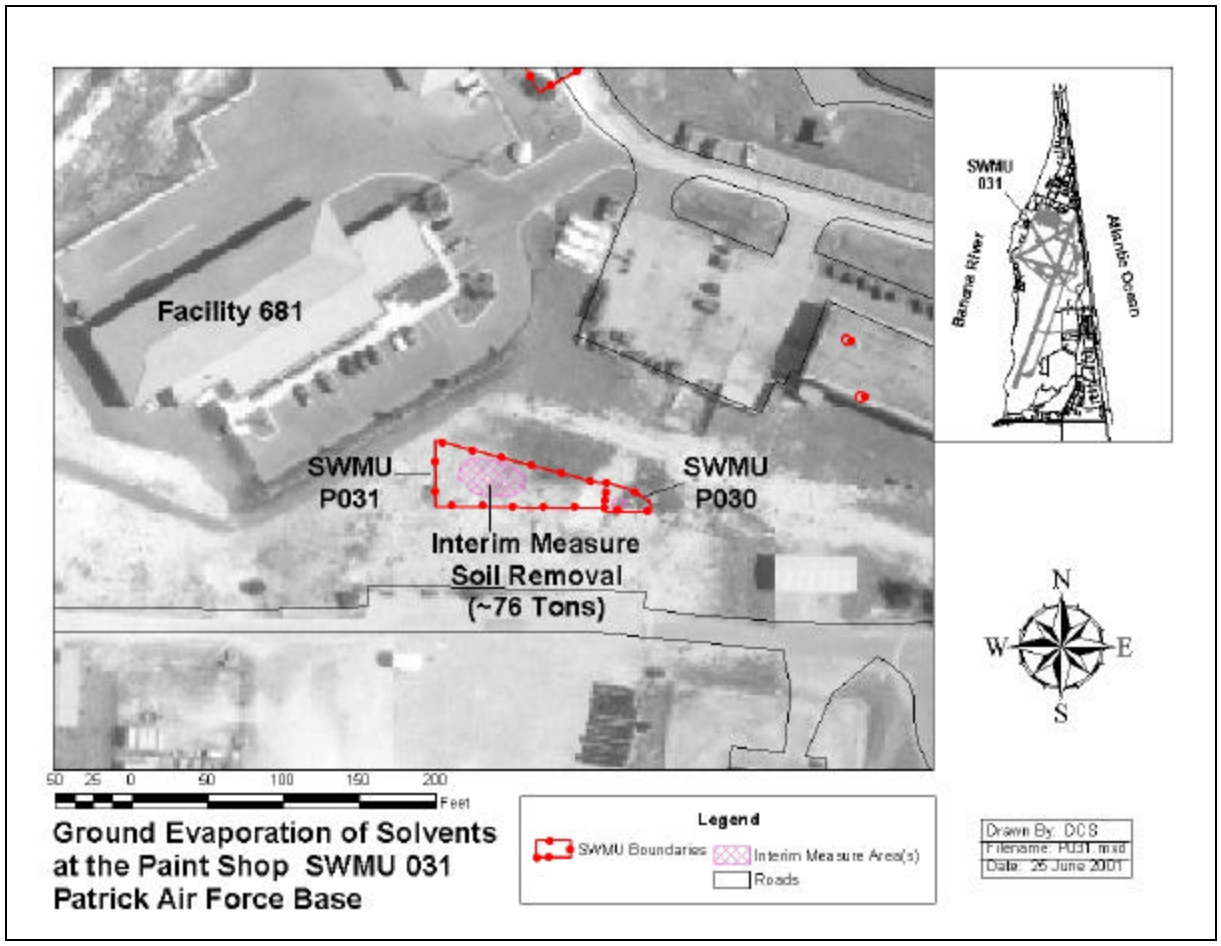
LUCIP
DP008 (SWMU NO. 31)
PATRICK AIR FORCE BASE
OCT 2001

Additional Information:

Pertinent Document Reference:

Remedial Investigation/Feasibility Study, DP008, Facility 681, SWMU No. 31, O'Brien & Gere Engineers, Inc., December 1997.

Ground Evaporation of Solvents Site (DP008) – Site Map



Please contact the 45 SW Installation Restoration Program Office to obtain additional information, including: the 45 SW Land Use Controls Operation Plan; the PAFB HSWA Permit; a complete record of corrective actions at DP008; or other related documents, guidance, and regulations. The IRP office can be reached by phone at (321) 853-0965. Information can also be obtained via the IRP website at http://www.mission-support.org/45SW_IRP_EA